REMARKS

Summary

Claims 1 and 4 have been amended.

No Claims have been deleted.

No new claims have been added.

Independent Claim 1, from which Claims 2-9 depend, is directed to a process for preparation of an organic compound. Claim 1 has been amended to further clarify that the organic compound formed according to the recited process has a stable APHA color value of 15 or less. Support for this amendment may be found in Claim 3 as originally filed. Claim 4 has been amended to further limit the recited stable APHA color to a value of 12 or less. Support for this amendment may be found in Example 1 on Page 6 of the application as filed. Accordingly, Applicants' presently claimed invention is directed to a process to produce an organic compound having a particular level of color stability.

Claim Rejections-35 U.S.C. 102(b) / 103(a)

Claims 1-20 stand rejected under 35 U.S.C. §102(b), or in the alternative under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,214,347 to Grekel et al. (hereinafter Grekel.) The rejections are respectfully traversed.

Grekel discloses distillation of an aqueous mixture of crude acids using a conventional fractionation column (Column 1) having a bottom temperature of about 175°C @ 440 mm and a top temperature of about 132°C @ 300 mm to produce a steam from the bottom of Column 1 comprising 2 percent of the n-butyric acid present in the original stream. This stream is then fed into a second column (Column 2) comprising water under reflux conditions, and having a bottom temperature of 164°C and a top temperature of 100°C. Substantially dry C_2-C_4 acids are withdrawn from the bottom of Column 2 and fed into a third column (Column 3). Column 3 is operated at a bottom temperature of 157.8°C and a top temperature of 138.9°C. The product stream from the bottom of Column 3 consists essentially of n-butyric acid. This stream is further fractionated (Column 4) at a bottom temperature of 172.2°C and a top temperature of 163.3°C to produce n-butyric acid having an APHA color of 5.

Examiner alleges that one of ordinary skill in the art would consider the disclosed step of Grekel wherein a stream comprising n-butyric acid is added to the second column under water reflux conditions and further purifying n-butyric acid anticipates or renders obvious Applicants' recited step of combining the organic compound with water. Applicants respectfully disagree.

In Claim 1, as amended, Applicants recite a process for preparation of an organic compound... comprising combining the organic compound with water to form a mixture of the organic compound and water comprising from about 100 ppm to about 50,000 ppm water, wherein the organic compound has a stable APHA color value of 15 or less. Applicants disclose a having a stable APHA color of 15 to mean the product will exhibit an APHA color value of 15 or less after being boiled for at least one hour at one atmosphere of pressure (See Page 2, lines 20-22.)

Applicants note that a problem associated with the recited organic compounds is color formation upon storage. This problem is exemplified in Example 1, wherein a "commercially produced butyric acid" having an initial APHA of 4 had an APHA of 31 after boiling. Addition of 1000 ppm water to this material according to Applicants' recited process resulted in a stable APHA of 12 (see Example 1, Page 6.) Grekel is silent regarding the stability of the n-butyric acid produced according to his disclosure. Furthermore, Grekel does not add water to n-butyric acid to produce an organic compound wherein the organic compound has a stable APHA color value of 15 or less. In fact, Grekel recycles the water and replaces only the portion of the water removed with various impurities separated according to his disclosure.

Grekel is thus directed to purification of an aqueous stream comprising n-butyric acid to produce a product stream which consists essentially of n-butyric acid (i.e., without water) having an APHA of 5. The n-butyric acid produced by Grekel could thus be the starting point of Applicants' presently claimed invention, wherein water would be added to the product disclosed by Grekel to produce Applicants' recited organic compound according to Applicants' presently claimed process.

Claim 10, from which Claims 11-13 depend, recites a process for the preparation of an organic compound having a stable APHA color value of 15 or less...wherein the organic compound is prepared and introduced into a distillation column wherein the upper and lower portions are maintained at about 23 to 250°C at a pressure of 10.1 to 202.6 kPa.

Applicants recite a process wherein a prepared organic compound is further processed to produce an organic compound having a stable APHA color value of 15 or less. Grekel is silent regarding color stability. Once again, Grekel is directed to a process for preparing one of the organic compounds recited in the claims, which is then further processes according to Applicants' presently claimed invention to produce Applicants' recited color stable compound.

Accordingly, Grekel does not disclose nor suggest all the limitations recited by Applicants. As such, Grekel cannot be found to anticipate, nor render obvious Applicants' presently claimed invention.

Claim 14, from which Claims 15-20 depend, combines the processes of Claims 1 and Claim 10. For the reasons stated above, Grekel cannot be found to anticipate, nor render obvious Applicants presently claimed invention.

CONCLUSION

Applicant respectfully requests reconsideration of the present invention in view of the amendment and remarks noted above. Claims 1-20 are allowable and such notice of allowance is respectfully solicited.

Applicants invite the Examiner to contact the undersigned attorney by telephone if there are any matters or issues outstanding that have not been addressed to the Examiner's satisfaction.

Respectfully Submitted,

M. Susan Spiering/dm

M. Susan Spiering
Attorney for Applicants
ATTORNEY USPTO Reg. No.: 34,933

Date: 10/7/05

Celanese Ltd.
IP Legal Dept., IZIP 701
P.O. Box 428
Bishop, TX 78343
Tel: 361.584.6804
Department Fax No.: 361.584.6230